

Appl. No. 10/604,144  
Amdt. dated June 17, 2005

*Amendments to the Specification*

Amendments are hereby made to the specification by way of several replacement paragraphs as indicated below. In accordance with 37 CFR. § 1.121(b)(1)(i), Applicant hereby instructs that each paragraph identified herein is to be replaced with a respective replacement paragraph. The location of each paragraph to be replaced is unambiguously identified below with respect to the previous version of the specification. In accordance with 37 CFR. § 1.121(b)(1)(ii), the full text of each replacement paragraph is provided below with markings to show all the changes relative to the previous version of the paragraph.

**With reference to the publication of the application, Pub. No. US 2004/0035272 A1, please replace paragraphs [0001] and [0002] with the following single paragraph:**

This application is a continuation of U.S. patent application Ser. No. 09/906,523, filed Jul. 16, 2001, ~~pending~~ now U.S. Pat. No. 6,705,188, which is incorporated herein by reference, which is a continuation of International Application No. PCT/US00/00365, filed Jan. 7, 2000, ~~abandoned~~, which designated the United States and was published in English under PCT Article 21(2), which is incorporated herein by reference, and which, in turn, is a continuation of U.S. patent application Ser. No. 09/232,401, filed Jan. 15, 1999, now U.S. Pat. No. 6,050,163, which further is incorporated herein by reference.

~~PCT/US00/00365, filed Jan. 7, 2000, abandoned, which was published in English under PCT Article 21(2), which is incorporated herein by reference, and which, in turn, is a continuation of U.S. patent application Ser. No. 09/232,401, filed Jan. 15, 1999, now U.S. Pat. No. 6,050,163, which further is incorporated herein by reference.~~

**With reference to the publication of the application, Pub. No. US 2004/0035272 A1, please replace paragraph [0020] with the following paragraph:**

Referring now to the drawings, the present invention relates broadly to a saw arrangement 8 including the combination of a circular saw blade 10 and a lubricating

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guide support assembly 12. As shown in Figure 1, this combination can be repeated to form what is commonly known as a horizontal gang saw 14 in the lumber industry. In each combination, and with reference to FIG. 3, the saw blade 10 includes a cutting edge 16 comprised of carbide insert teeth 18 for cutting during rotation of the saw blade 10. The saw blade 10 also includes a central opening 20 by which the saw blade 10 is mounted to an arbor 22 extending along an axis 24 that simultaneously drives each saw blade 10 by rotation in a circumferential direction  $\omega$  ~~(1)~~ ~~quadrature~~. The rotation of the saw blades 10 generates the cutting action of the gang saw 14 for the cutting of lumber in a cutting area (generally indicated at 26).

**With reference to the publication of the application, Pub. No. US 2004/0035272 A1, please replace paragraph [0022] with the following paragraph:**

Regardless of the actual cross-sectional shape of the cavity 30 that is used, the cavity 30 preferably includes a radial dimension  $\rho$  ~~(1)~~ ~~quadrature~~ that varies along a circumferential direction  $\theta$  ~~(1)~~ ~~circumflex over (1)~~, of the circular saw blade 10 between opposed circumferential ends 36,38 of the cavity 30 as shown in FIG. 5. The radial dimension  $\rho$  ~~(1)~~ ~~quadrature~~ also preferably exceeds 0.015 inches whereby the cavity 30 has sufficient dimension to readily receive liquid therein; it is noted that the laser cut slots of Carter Jr. U.S. Pat. No. 4,776,251 have a radial dimension less than 0.015 inches and, therefore, are of an insufficient width to receive liquid from the recessed area  $\phi$  (just as sawdust packing is avoided by such a small width).

**With reference to the publication of the application, Pub. No. US 2004/0035272 A1, please replace paragraph [0023] with the following paragraph:**

Each cavity 30 in the present invention also preferably includes rounded corners 40 each having a radius of, for example,  $\frac{3}{16}$  ~~three-sixteenths~~ of an inch. A trailing edge 42 of the cavity 30 is also preferably oriented at a negative angle  $\alpha$  ~~(1)~~ ~~circumflex over (1)~~ ~~+~~  $\alpha$  of preferably 5 degrees with respect to a radius R of

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the saw blade 10. These design configurations for the cavity 30 of the present invention prevent sawdust packing and enhance liquid distribution to the saw body 28 and cutting area 26 as discussed in detail below.

**With reference to the publication of the application, Pub. No. US 2004/0035272 A1, please replace paragraph [0029] with the following paragraph:**

Each cavity 30 is formed in each saw body 28 in this annular section defined by dashed lines 50 whereby each cavity 30 will ~~pass~~ pass by the recessed area 48 during rotation of the saw blade 10 as illustrated in FIG. 3. As the cavity 30 passes by the recessed area 48 the pressurized liquid is driven into the cavity 30 and transported away from the recessed area 48 toward the cutting area 26. Once the cavity 30 clears the bearings surface 46 of the guide support 44, air turbulence and inertial forces cause the transported liquid to pass out of the cavity 30 for distribution to the saw body 28 and the cutting area 26 including the cutting edge 16 of the saw blade 10 both before and within the cant. The distribution of liquid to the saw body 28 and to the cutting area 26 is thereby increased as opposed to simply applying a liquid film to the annular section define by dashed lines 50.

**With reference to the publication of the application, Pub. No. US 2004/0035272 A1, please replace paragraph [0030] with the following paragraph:**

The design configurations of each cavity 30 set forth above enhance this liquid distribution and prevent sawdust packing. In particular, due to the radial variance of ~~{umlaut over (l)}-quadrature~~ "rho" in the dimension of the cavity 30, the cavity 30 is narrower at the leading point first 68 passing by the recessed area 48 and grows radially larger circumferentially along the saw body 28. This narrow-to-wide transition, in conjunction with the rounded corners 40 and negative angle a of the trailing edge 42 of the cavity 30, draws the liquid into the cavity 30 and, when the cavity 30 clears the bearing surface 46, draws air into the cavity 30 displacing the liquid carried therein out of the cavity 30 in what is believed to be a vortex or swirling

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action. It has also been observed that the trailing edge 42, because of its angled orientation to the radius R of the blade 10, enhances distribution of the liquid toward the center of the saw body 28 before inertial forces draw the liquid in a direction from the center of the saw body 28 towards the cutting edge 16. Moreover, during its pass through the cant, sawdust is driven towards the angled trailing edge 42 and is deflected thereby without finding niches to accumulate within, especially since the corners 40 of the cavity 30 are rounded. Thus, among other benefits of the present invention, sawdust packing is avoided without unduly limiting the radial dimension  ~~$\{\text{umlaut over (f)}\}$~~  "rho" of the cavity 30 to a constant value less than 0.015 inches as taught by Carter Jr. Moreover, it is noted that a narrow slot as disclosed by Carter Jr. would not draw the required liquid therein while passing by the recessed area 48 of the present invention.